(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 17 June 2004 (17.06.2004)

PCT

(10) International Publication Number WO 2004/050768 A2

(51) International Patent Classification7:

C09B

(21) International Application Number:

PCT/EP2003/050898

(22) International Filing Date:

26 November 2003 (26.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2058/02

5 December 2002 (05.12.2002)

- (71) Applicant (for all designated States except US): CIBA SPECIALTY CHEMICALS HOLDING INC. [CH/CH]; Klybeckstrasse 141, CH-4057 Basel (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): FEILER, Leonhard [DE/DE]; Werner-von-Siemens-Strasse 6, 79395 Neuenburg (DE). RAIMANN, Thomas [CH/CH]; Bodenackerstrasse 15D, CH-4334 Sisseln (CH). EICHENBERGER, Thomas [CH/CH]; Jungstrasse 17, CH-4056 Basel (CH). HÜGIN, Max [CH/CH]; Zielweg 256, CH-4497 Rünenberg (CH).

- (74) Common Representative: CIBA SPECIALTY CHEM-ICALS HOLDING INC.; Patent Department, Klybeckstrasse 141, CH-4057 Basel (CH).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AZO DYES SOLUBLE IN ORGANIC SOLVENTS

$$\begin{bmatrix} R_1 & N & \\ R_2 & N & \\ R_4 & N & O \end{bmatrix} (SO_3)_n^- M_n^+$$

$$(1)$$

(57) Abstract: The present invention relates to azo dyes of formula (1) which are soluble in organic solvents, wherein R1 is -CN, -COOR₅, -CONR₆R₇ or a heterocyclic ring, R2 is unsubstituted or substituted alkyl, unsubstituted or substituted aryl, -CF₃, -COOR₅, -CONR₆R₇ or -COR₅, R₃ is hydrogen, -SO₃M, alkylcarbonyl. alkyl, alkoxy,

-NO₂ or halogen, R₄ is substituted aryl, substituted heteroaryl or an aryl-N=N-aryl radical, wherein one or both of the aryl radicals in aryl-N=N-aryl is/are unsubstituted or substituted, or a radical heteroaryl-N=N-heteroaryl, wherein one or both of the heteroaryl radicals in heteroaryl-N=N-heteroaryl is/are unsubstituted or substituted, R5 is hydrogen, alkyl or unsubstituted or substituted aryl, R_6 is hydrogen, alkyl or unsubstituted or substituted aryl, R_7 is hydrogen, alkyl or unsubstituted or substituted aryl, M^+ is a cation, n is a number 1, 2 or 3 and m is a number 1, 2 or 3, to a process for the preparation thereof and to the use thereof in the production of coloured plastics or polymeric colour particles, and as printing inks, printing dyes, coating compositions and wood stains.